

B. Specification

Please amend the paragraph at page 11, line 7, through page 14, line 2, as follows:

Here, equivalent circuits of the electrostatic protective elements 406 are shown in Figs. 6A and 6B, and film structures thereof are shown in Figs. 7A to 7D. Although not shown in Fig. 1, the protective elements 406 are constituted by a circuit form of Fig. 6A provided with a pull-down resistor or a circuit form of Fig. 6B provided with a pull-up resistor. In Figs. 6A and 6B, reference numeral 600 (610) denotes a pad equivalent to the pad on the substrate of Fig. 1; 606 (616), a buffer equivalent to logic system buffer 101 of Fig. 1; and 601 (611), a pull-down resistor (pull-up resistor) provided with a parasitic diode for electrostatic protection between ground (GND) lines. Reference numerals 602 (612) and 604 (614) denote diodes for electrostatic protection connected to a logic circuit drive power supply (5V) line; 605 (615), a diode for electrostatic protection connected to the ground (GND) line; and 603 (613), a polysilicon resistor. Dotted lines shown in Figs. 6A and 6B indicate paths through which a current in the case of being electrostatically discharged to the pad 600 (610) flows. As can be seen from this, between the pad 600 (610) and the polysilicon resistor 603 (613), a path defined by the parasitic diode 601 (611) connected to the ground (GND) line composed of the pull-up resistor or the pull-down resistor and the diode 602 (612) connected to the logic circuit drive power supply (5V) is formed. In addition, between the polysilicon resistor 603 (613) and the buffer 606 (616), a path defined by the diode 605 (615) connected to the ground (GND) line and the diode 604 (614) connected to the logic circuit drive power supply (5V) is formed. Figs. 7A to 7D are diagrams showing film structures in which each component of Figs. 6A and 6B are shown. Fig. 7A shows the pull-down resistor 601 with a parasitic

diode, Fig. 7B shows the pull-up resistor 611 with a parasitic diode, Fig. 7C shows the diodes 602 (612) and 604 (614) connected to the logic circuit drive power supply (5V), and Fig. 7D shows the diode 605 (615) connected to the ground (GND) line. In Fig. 7A, reference numeral 701 denotes a P-type silicon substrate; 702, a P-type well area; 703, an N-type well area; 704, a field oxide film; and 705a, 705c, and 706c (705b and 706a shown in Figs. 7B and 7C), a high concentration N-type area and a high concentration P-type area for taking ohmic contact with not-shown aluminum. Here, the N-type well area 703 used as a resistor becomes a terminal of a diode together with the high concentration P-type area 706c and is provided so as to connect the high concentration N-type area 705a directly connected to the pad and the high concentration N-type area 705c provided apart from the high concentration N-type area 705a. The high concentration N-type area 705c is connected to the high concentration P-type area 706c provided in the P-type well area 702 via the not-shown aluminum. Consequently, the N-type well area 703 constitutes the diode together with the P-type silicon substrate 701 and the P-type well area 702 and acts as a resistor between the high concentration N-type area 705a and the high concentration N-type area 705c. Fig. 7B is the same as Fig. 7A except that the pull-down resistor is changed to the pull-up resistor because the high concentration N-type area 705c is replaced with the high concentration N-type area 705b. Thus, in Fig. 7B, the identical layers are denoted by the identical reference symbols, and repeated descriptions of the layers will be omitted. In Fig. 7C, the diode is constituted by the N-type well area 703, the high concentration P-type area 706a, and the high concentration N-type area 705b. In Fig. 7D, the diode is constituted by the N-type well area 703, the P-type well area 702, the high concentration P-type area 706c, and the high concentration N-type area 705a.

Please amend the paragraph at page 22, line 15, through page 23, line 24, as follows:

Fig. 5 is a schematic view of an ink jet print apparatus IJRA to which the ink jet head of the present invention is applied. A carriage HC engaged with a spiral groove 5004 of a lead screw 5005, which rotates via driving force transmission gears 5011 and 5009 in association with forward and backward rotations of a drive motor 5013, is a carriage on which the ink jet head is detachably mounted, and has a pin (not shown), and is reciprocatingly moved in directions of an arrow a and an arrow b. Reference numeral 5002 denotes a paper holding plate, which presses a print medium, typically paper, to a platen 5006 serving as print medium conveying means over a carriage moving direction. Reference numerals 5007 and 5008 denote home position detection means which confirm the existence of a lever 5006 of the carriage in this area with a photo coupler to perform rotating direction switching or the like of the motor 5013. Reference numeral 5016 denotes a member for supporting a cap member 5022 which caps the front surface of the ink jet head. Reference numeral 5015 denotes suction means which sucks the inside of this cap and performs suction recovery of the ink jet head via an opening 5023 in the cap. Reference numeral 5017 denotes a cleaning blade and 5019 denotes a member for making this blade movable back and forth, both of which are supported by a main body support plate 5018. It goes without saying that instead of the blade of this form, a well-known cleaning blade can be applied to this embodiment. In addition, reference numeral 5012 is a lever for starting suction of suction recovery, which moves in accordance with the movement of a cam 5020 engaged with the carriage. A driving force from a drive motor is switched by publicly known transmission means such as clutch switching or the like to control the movement of the lever.